

REFERENCING AND RAPID SAMPLING IN ARTIFICIAL OLFACTOMETRY

ABSTRACT OF THE DISCLOSURE

Devices and methods are disclosed that are effective to produce reliable vapor measurements in the presence of drift. In certain instances the sensor module is mounted externally on a housing. In other instances, the sensor module contains a first sensor element incorporating a first array of sensors and a second sensor element incorporating a second array of sensors wherein both sensor elements are mounted externally on the housing. In other embodiments, the present invention relates to mapping an x-y surface for detection of an analyte, the method includes moving in tandem at least two sensor arrays separated by a distance “d” across an x-y surface to produce a plurality of responses and analyzing the responses to map the x-y surface for detection of an analyte. Moreover, the present invention provides a sensor module, such as in a handheld device, comprising at least two pneumatic vapor paths and at least two sensor arrays. The dual pneumatic train allows rapid sensing as it increases the duty cycle frequency.